discovered reference. Claims 76, 78, 80, 82-83 & 87 were then rejected under 35 U.S.C. § 102(e) in view of the newly cited reference. Claims 75, 77, 79, 81 & 84-86 remain allowed.

AMENDMENT

In the Specification:

Please replace the title recited at page 1, line 1 with the following title.

E1

POLYNUCLEOTIDES ENCODING A NEUROTROPHIC FACTOR RECEPTOR

In the Claims:

Please cancel claim 85.

Please replace claims 75-84 and 86-87 with the following:

75. An isolated polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 38 and SEQ ID NO:42.

E2

76. An isolated polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of Cys^{44} through Cys^{389} of SEQ ID NO:38 and Cys^{41} through Cys^{337} of SEQ ID NO:42, wherein said protein is capable of binding to a glial cell line-derived neurotrophic factor or a neurturin neurotrophic factor such that the resulting protein/neurotrophic factor complex can bind to and induce phosphorylation of ret receptor protein tyrosine kinase.

77. An isolated polynucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of:

a) nucleotides of SEQ ID NO:37 encoding SEQ ID NO:38, and

b) nucleotides of SEQ ID NO:41 encoding SEQ ID NO:42.

78. A vector comprising a polynucleic acid molecule of claim 75, 76 or 77 operatively linked to one or more operational elements effecting the amplification or expression of said polynucleic acid molecule.

79. A vector comprising a polynucleic acid molecule encoding a protein comprising the amino acid sequence of SEQ ID NOs: 38 or 42 operatively linked to one or more operational elements effecting the amplification or expression of said polynucleic acid molecule, wherein said protein is capable of binding to a neurotrophic factor such that the resulting protein/neurotrophic factor complex can bind to and induce phosphorylation of ret receptor protein tyrosine kinase.

80. An isolated host cell comprising a vector of claim 78.

81. An isolated host cell comprising a vector of claim 79.

82. An isolated host cell comprising a vector of claim 78 wherein said host cell is selected from the group consisting of a mammalian cell and a bacterial cell.

83. A host cell of claim 82 which is a COS-7 cell or E. coli.

84. A method for the production of a neurotrophic factor receptor protein, said method comprising the steps of:

(a) culturing an isolated host cell, containing a polynucleic acid molecule encoding a protein comprising an amino acid sequence selected from the group consisting of

(i) SEQ ID NO:38, and

(ii) SEQ ID NO:42,

under conditions suitable for the expression of said neurotrophic factor receptor protein by said host cell; and

(b) optionally, isolating said neurotrophic factor receptor protein expressed by said host cell.

86. A method of claim 84, wherein said polynucleic acid molecule encodes a neurotrophic factor receptor protein comprising the amino acid sequence of SEQ ID NOs:38 or 42.

87. A method for the production of a neurotrophic factor receptor protein comprising the steps of:

(a) culturing an isolated host cell containing a polynucleic acid molecule of claim 75, 76 or 77 under conditions suitable for the expression of said neurotrophic factor receptor protein by said host cell; and

(b) optionally, isolating said neurotrophic factor receptor protein expressed by said host cell.